

## REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

Claims 7 and 8 are withdrawn from consideration. Claims 1-6 are presently at issue in this application and remain readable on the elected species, with Claims 1, 3 and 5 being independent.

On the middle of page two of the Official Action, an issue is raised regarding the length of the Abstract of the Disclosure. Accordingly, the Abstract of the Disclosure is amended to thereby address that issue.

On the bottom of page two of the Official Action, an issue is raised regarding the terms "selectively" and "or" in Claims 1, 3 and 5. Claims 1, 3 and 5 are amended without narrowing the claim scope to change the phrase "equal to or greater than" to --at least equal to--. A similar change has also been made in Claims 2, 4 and 6.

With respect to the term "selectively," the Examiner's concern is not fully understood. The claims in question recite that the linear proportioning solenoid valve selectively communicates the wheel brake cylinder with one of the reservoir and the pressure generating means. From the comments in the Official Action, it is not understood why the use of the term "selectively" renders the claims indefinite and so the reasoning behind the objection to this term is not clear. However, the language in question complies with the relevant statutory requirement in that it particularly points out and distinctly claims that the linear proportioning solenoid valve selectively communicates the wheel brake cylinder with the reservoir or the pressure generating means. In the event the Examiner still has concerns regarding the use of the term

"selectively," the Examiner is kindly asked to call the undersigned to discuss this matter so that the undersigned will better appreciate the Examiner's concern.

Withdrawal of the claim rejection based on the second paragraph of 35 U.S.C. § 112, second paragraph is respectfully requested.

The Official Action rejects Claims 1, 3 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,984,432, hereinafter *Otomo*.

*Otomo* discloses a hydraulic braking system. As shown in Fig. 1 of *Otomo*, the hydraulic braking system 10 includes a master cylinder 12, a pump 14, and an accumulator 16 for storing a highly pressurized working fluid delivered from the pump 14. The master cylinder 12 and the pump 14 are supplied with fluid from a master reservoir 18. The master cylinder 12 is connected to brake cylinders 50, 52 via a linear solenoid device 56 that operates to control pressure delivered from the master cylinder 12 and the accumulator 16 to the brake cylinders 50, 52.

As shown in Fig. 3 of *Otomo*, the linear solenoid device 56 includes an increasing linear solenoid valve 150 and a decreasing linear solenoid valve 152. During operation, hydraulic pressure is delivered into the increasing solenoid valve 150 through passage 164 and out through passage 168. The hydraulic pressure counteracts the spring 206 thereby unseating the valve member 200. The pressure delivered to the brake cylinders 50, 52 is lowered by actuation of the solenoid coil 210, thereby counteracting the spring 220 and unseating the valve member 200 in the lowering linear solenoid valve 150. Upon unseating of the valve member 200, hydraulic fluid flows in the passage 172, out the passage 176 and into the pressure reducing reservoir 154. The pressure reducing reservoir 154 is provided in addition to the master reservoir 18. The pressure reducing reservoir 154 accepts hydraulic

fluid during pressure reduction, and returns hydraulic fluid to the master cylinder 12 via the lines 170, 180 after completion of braking.

*Otomo* corresponds to Japanese Application Publication No. 10-315946 which is discussed in the background portion of the present application. The discussion beginning on page three of the present application points out that in the system described in *Otomo*, the braking operation will not start until the pressure reducing reservoir is filled with the brake fluid, even if the pressure reducing reservoir capacity is made smaller than the wheel cylinder capacity. In the event the pressure control valve device fails (e.g., during regenerative braking cooperative control), it is important to shift the braking control to the hydraulic pressure control relatively immediately, irrespective of the amount of fluid drained into the reservoir. The hydraulic brake apparatus at issue here is adapted to provide a hydraulic pressure braking operation relatively immediately even if a failure occurs (e.g., a failure of the pressure regulating device or the like).

As recited in Claim 1, the hydraulic brake apparatus comprises, *inter alia*, pressure regulating means that comprises a linear proportioning solenoid valve for selectively communicating the wheel brake cylinder with one of the reservoir and the pressure generating means to regulate a pressure difference between the hydraulic pressure output from the pressure generating means and the hydraulic pressure fed into the wheel brake cylinder to a desired value in response to electromagnetic force exerted by the linear proportioning solenoid valve, and pressure difference limiting means which blocks communication between the wheel brake cylinder and the reservoir and communicates the pressure generating means with the wheel brake cylinder when the pressure difference between the hydraulic pressure output from

the pressure generating means and the hydraulic pressure fed into the wheel brake cylinder is at least equal to a predetermined value.

It is understood from the Official Action that the ECU disclosed in *Otomo* is interpreted as corresponding to the claimed pressure difference limiting means. To more clearly distinguish over this interpretation, Claim 1 has been amended to recite that the pressure difference limiting means communicates with the pressure generating means through a first port, communicates with the wheel brake cylinder through a second port, and communicates with the reservoir through a third port, with the pressure difference limiting means blocking the communication between the wheel brake cylinder and the reservoir through the second port and the third port, and communicating the pressure generating means with the wheel brake cylinder through the first port and the second port, respectively, when the pressure difference between the hydraulic pressure output from the pressure generating means and the hydraulic pressure fed into the wheel brake cylinder is at least equal to a predetermined value. Quite clearly, this differs from the ECU described in *Otomo*.

Independent Claims 3 and 5 have been similarly amended to distinguish over the interpretation set forth in the Official Action.

Considering at least the distinction discussed above, Claims 1, 3 and 5 are not anticipated by *Otomo*.

The Official Action also sets forth a rejection of dependent Claims 2, 4 and 6 under 35 U.S.C. § 103(a) as being unpatentable over *Otomo* in view of U.S. Patent No. 5,109,886, hereinafter *Takata*. The Official Action relies on *Takata* for a disclosure of the structure of a linear solenoid valve, and proposes that it would have been obvious to use the valve described in *Takata* in *Otomo*'s brake system.

However, *Takata's* linear solenoid valve only operates upon actuation of the electricity/power converter. In contrast, the pressure difference limiting means at issue here blocks communication between the wheel brake cylinder and the reservoir through the second port and the third port, and communicates the pressure generating means with the wheel brake cylinder through the first port and the second port, respectively, when the pressure difference between the hydraulic pressure output from the pressure generating means and the hydraulic pressure fed into the wheel brake cylinder is at least equal to a predetermined value independently of operation of the linear proportioning solenoid valve. Claim 1 has been amended to recite that the claimed communication and blocking of communication occurs independently of operation of the linear proportioning solenoid valve. Thus, even if some motivation did exist for the modification proposed in the Official Action, the result would not be that which is set forth in Claim 1.

Independent Claims 3 and 5 have also been amended to recite that pressure difference limiting means at issue here communicates and blocks communication as claimed independently of operation of the linear proportioning solenoid valve. Thus, these claims are also distinguishable over a hypothetical combination of the disclosures in *Otomo* and *Takata*.

For at least the reasons stated above, it is requested that all the objections and rejections be withdrawn, and that this application be allowed in a timely manner.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful

in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

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